

Xanadu* and IntelligentPad

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Project Xanadu

Project Xanadu has for several decades been an ongoing development effort for a particular kind of back-end data service and electronic publishing. The objective has been to facilitate the creation and sharing of application-independent hypermedia objects that can be reworked, shared, re-used, published, and sold.

A principal intention of Project Xanadu has been to avoid the difficulties of permission in publishing, through a specific copyright approach now called Transcopyright. The published document consists of a list of pointers to transcopyrighted material, so that each user buys each piece from its original publisher. Thus nothing is misquoted, nothing is out of context (since the original context is available), and each publisher is paid a small amount for each use. But each publisher must give permission for re-use in arbitrary new contexts.

There have been very ambitious attempts at implementation, the most recent by Autodesk, Inc. in the United States.

Xanadu Idealism

Xanadu has always been a very idealistic enterprise, concerned for freedom of information for everyone, and for simplifying and eliminating copyright as a problem, while retaining its benefits. The work has been well known and has excited people in many parts of the world.

I am presently developing specifications for the generalized Xanadu functions so that anyone can implement these types of function, although the trademark "Xanadu" will only be licensed to some.

The Xanadu Project has always been two things; a kind of local service for data, keeping re-used materials clearly identified; and a kind of publishing service, also keeping re-used materials clearly identified.

A Xanadu server keeps track of contents, links and transclusions. In the Xanadu way of thinking, a link is a connection between materials which are different, and a transclusion is a connection between things which are the same (i.e., a virtual copy having the same identity).

This helps in the intercomparison of documents, versions and re-uses of all kinds.

Xanadu Back-End Data Functions

Locally, Xanadu function is defined as a specific data service around which applications can be built for linked material (hypermedia) and transcluded (or re-used) material. A Xanadu server keeps track of contents and specific structural relations (links and transclusions), despite evolving changes as the material is edited.

Xanadu data consists of primary elements and objects created by users-- text, pictures, video, paintfiles, etc. These may be composited with various structural relationships, and by transclusion may be re-used in virtual objects of all kinds.

The Xanadu Front-End Client

In the Xanadu model, the front end is a computer which sends for and assembles portions of contents, presents them to the user, and interacts with the data.

The Xanadu Publishing System

Anyone may open a publishing node, and anyone may publish. Publishing involves a long-term commitment to keep the material available, and permission for its republication under the transcopyright agreement.

If the user chooses to follow a hyperlink on the screen, his front-end system checks the price of the materials. If the price is acceptable according to a pre-programmed range, the purchase transaction is carried out automatically without the user's noticing it. The portion which is delivered from the publisher is now owned by the user. The user has the option of retaining the piece, which he now owns, as part of his private library.

Furthermore, any user may republish anything virtually through the transcopyright method.

IntelligentPad and its Ideals

IntelligentPad is a highly-capable interactive system toolkit with remarkable properties. It allows the creation of both back-end and client systems, and can function seamlessly across a network, including the Internet.

Professor Tanaka, the developer of IntelligentPad, has a very similar idealism to mine with regard to the distribution and availability of information, and so he has designed IntelligentPad with a model of distribution and access that is similar to Xanadu.

In principle, then, it should be possible to use IntelligentPad for Xanadu-class functions, to construct both back-end servers and front-end clients. Either of these applications would require a serious effort, but both are possible.

Used as the basis for a front-end application, an IntelligentPad client could function on the Internet, for editing, compositing, publishing and republishing materials; and for viewing, interacting with, and purchasing materials from other publishers across the Internet, and storing them in the user's local system.

Such a front end could use either IntelligentPad's native paste-and-peel interface, or could be adapted to other interfaces.

Used as the basis of a Xanadu-class back-end server, IntelligentPad could be used to program both a server, and a delivery medium, absorbing various network functions.

IntelligentPad and Xanadu on Today's Internet

Today's Internet presents many new opportunities for tomorrow's software, and a highly competitive environment for world-wide commerce. I believe IntelligentPad can become a significant software force in that environment. I believe that its combination with Xanadu may create a powerful synergistic effect.